

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/720,587	LINNEBERG ET AL.	
	Examiner Michael B. Holmes	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to January 3, 2005.
2.  The allowed claim(s) is/are 43-102.
3.  The drawings filed on 22 December 2000 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.



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**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**Examiner's Detailed Office Action**

1. Claims 1-42 have been canceled.
2. Claims 43-102 are allowed (renumbered as 1-60).

**REASONS FOR ALLOWANCE**

3. The following is an Examiner's statement for reasons for allowance:
4. The closest prior art *Agrafiotis et al.* (USPN 6,571,227), *Taylor et al.* (USPN 5,175,798), *Taylor et al.* (USPN 5,475,795), *Jorgensen et al.*, "Theoretical Analysis and Improved Decision Criteria for the n-Tuple Classifier" IEEE Transactions on Pattern Analysis and Machine Intelligence, 1999, *Jorgensen et al.*, "Boosting the Performance of Weightless Neural Networks by Using a Post-Processing Transformation of the Output Scores" International Joint Conference on Neural Networks, 1999 do not teach or render obvious applicant's claimed invention. In particular, as pointed out below, the prior art lacks certain features and the combination as specified in the respective claims.
5. With regards to claim 43 *Agrafiotis et al.*, *Taylor et al.*, and *Jorgensen et al.*, do not disclose ... a number of n-tuple or Look Up Tables (LUTs), determining decision rules based on

the Information of at least part of the determined column vector cell values, adjusting at least part of the decision rules based on an information measure evaluation, and training the computer classification system.

6. With regards to claim 82 *Agrafiotis et al., Taylor et al., and Jorgensen et al.*, do not disclose ... a stored number of n-tuples or Look Up Tables (LUTs) determining decision rules based on the information of at least part of the determined column vector cell values and a validation set of input data examples of known classes, and where determining the output score functions and/or decision rules comprises initializing one or more sets of output score functions and/or decision rules, and adjusting output score functions and decision rules by use of at least part of the validation set of input examples.

7. With regards to claim 83 *Agrafiotis et al., Taylor et al., and Jorgensen et al.*, do not disclose ... storing a number or set of n-tuples or Look Up Tables (LUTs) determining output score values using the stored output score functions and at least part of the stored column vector values, and determining a winning class or classes based on the output score values and stored decision rules.

8. With regards to claim 102 *Agrafiotis et al., Taylor et al., and Jorgensen et al.*, do not disclose ... storing a number or set of n-tuples or Look Up Tables (LUTs) determining output score values using the stored output score functions and at least part of the stored column vector values, and means for determining a winning class or classes based on the output score values and stored decision rules.

## Correspondence Information

9. Any inquires concerning this communication or earlier communications from the examiner should be directed to Michael B. Holmes, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-3686 or facsimile transmission (571) 273-3686 or email [Michael.holmesb@uspto.gov](mailto:Michael.holmesb@uspto.gov).

If you need to send an Official facsimile transmission, please send it to (703) 746-7239.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, Anthony Knight, may be reached at (571) 272-3687.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

***Michael B. Holmes***

Patent Examiner  
Artificial Intelligence  
Art Unit 2121

United States Department of Commerce  
Patent & Trademark Office



Anthony Knight  
Supervisory Patent Examiner  
Group 3600

Wednesday, March 23, 2005

MBH